

# BLAKELY SOKOLOFF TAYLOR & ZAFMAN

A LIMITED LIABILITY PARTNERSHIP INCLUDING LAW CORPORATIONS

TELEPHONE (408) 720-8300

FACSIMILE (408) 720-8383

BISTZ.MAIL@BISTZ.COM

WWW.BISTZ.COM

INTELLECTUAL PROPERTY LAW

SILICON VALLEY

1279 OAKMEAD PARKWAY  
SUNNYVALE, CALIFORNIA 94085-4040

OTHER OFFICES

LOS ANGELES, CA  
ORANGE COUNTY/COSTA MESA, CA  
SAN JOSE, CA  
DENVER, CO  
PORTLAND/SEASIDE, OR  
SEATTLE, WA

## FACSIMILE TRANSMITTAL SHEET

DELIVER TO Examiner James D. RuttonFACSIMILE NO.: (571) 273-3703 TELEPHONE NO.: (571) 272-3703FROM: Michelle Begay for Marina PortnovaDATE: May 23, 2008TOTAL NUMBER OF PAGES INCLUDING COVER SHEET: 12OPERATOR: Michelle Begay OUR REF.: 8152P002

Message:

Examiner Rutton:

Enclosed please find the proposed amendment for the above case.

Thank you,

Michelle Begay  
Secretary to Marina Portnova  
(408) 720-8300 x3493IF YOU DO NOT RECEIVE ALL THE PAGES, OR IF THERE IS ANY DIFFICULTY IN RECEIVING, PLEASE  
CALL (408) 720-8300 AND ASK FOR THE OPERATOR NAMED ABOVE.

Do NOT Enter

/jdr/ 5/23/08

Atty. Docket No.: 8152P002

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Robert M. Zeidman

Serial No.: 10/720,636

Filed: November 25, 2003

For: SOFTWARE TOOL FOR DETECTING  
PLAGIARISM IN COMPUTER SOURCE  
CODE

Examiner: Rutten, James D.

Art Unit: 2192

Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**PROPOSED AMENDMENT**

Sir:

Applicant respectfully request the Examiner to enter the following amendments and consider the following remarks:

**FACSIMILE TRANSMITTAL**

I hereby certify that this correspondence is being transmitted by facsimile to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, in accordance with 37 CFR § 1.6(d), on the date shown below.

on \_\_\_\_\_  
Date of transmission\_\_\_\_\_  
Name of Person Faxing Correspondence\_\_\_\_\_  
Signature\_\_\_\_\_  
Date

8152P002

Do NOT Enter

/jdr/ 5/23/08

IN THE CLAIMS

1-22. (Cancelled)

23. (Currently Amended) A computer-implemented method comprising:

creating a first array for a first program source code file including a plurality of program elements, the first array containing program elements of a distinct program element type represented by any one of lines of functional program code, lines of program comments, or program code identifiers;

creating a second array for a second program source code file including the plurality of program elements, the second array containing program elements of the same program element type as the program elements in the first array;

comparing the program elements from the first array with the program elements from the second array to find similar program elements, the comparison being performed between individual program elements regardless of an order of code lines containing the program elements in the first array and the second array during the comparison, the comparison being independent of common sequences of program elements in the first array and the second array;

calculating a similarity number based on the similar program elements,

wherein when the similar program elements are similar program code identifiers, the similarity number is calculated by combining a number of matching alphabetical characters in the similar program code identifiers with a fraction of a number of matching numerals in the similar program code identifiers; and

8152P002

presenting to a user an indication of plagiarism with respect to at least one of the first program source code file and the second program source file, wherein the indication of plagiarism is defined by the similarity number.

24. (Previously Presented) The method of claim 23 further comprising:

substituting each sequence of whitespace characters in each program element in the first array and the second array with a single space character.

25. (Previously Presented) The method of claim 23 wherein the comparison is insensitive to whether characters of the program elements are uppercase or lowercase.

26. (Previously Presented) The method of claim 23 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code; and

the method further comprises:

prior to comparing, eliminating from the first and second arrays lines of functional program code that consist entirely of programming keywords.

27. (Previously Presented) The method of claim 23 wherein:

the program element type of the program elements in the first and second arrays is a line of program comments; and

calculating a similarity number comprises finding a number of matching lines in the first and second arrays.

28. (Previously Presented) The method of claim 23 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code excluding functional program code consisting entirely of program language keywords; and

calculating a similarity number comprises finding a number of matching lines in the first and second arrays.

29. (Previously Presented) The method of claim 23 wherein:

the program element type of the program elements in the first and second arrays is a program code identifier; and

calculating a similarity number comprises finding a number of similar identifiers in the first and second arrays.

30. (Previously Presented) The method of claim 29 wherein the similar identifiers represent at least one of exact matches or partial matches.

31. (Cancelled)

32. (Previously Presented) The method of claim 31 wherein each partial match is a sequence of characters that can be found within an element of the first array and an element of the second array.

33. (Currently Amended) A computer-readable storage medium storing executable instructions to cause a computer system to perform a method comprising:

8152P002

creating a first array for a first program source code file including a plurality of program elements, the first array containing program elements of a distinct program element type represented by any one of lines of functional program code, lines of program comments, or program code identifiers;

creating a second array for a second program source code file including the plurality of program elements, the second array containing program elements of the same program element type as the program elements in the first array;

comparing the program elements from the first array with the program elements from the second array to find similar program elements, the comparison being performed between individual program elements regardless of an order of code lines containing the program elements in the first array and the second array during the comparison, the comparison being independent of common sequences of program elements in the first array and the second array; [[and]]

calculating a similarity number based on the similar program elements,

wherein when the similar program elements are similar program code identifiers, the similarity number is calculated by combining a number of matching alphabetical characters in the similar program code identifiers with a fraction of a number of matching numerals in the similar program code identifiers; and

presenting to a user an indication of plagiarism with respect to at least one of the first program source code file and the second program source file, wherein the indication of plagiarism is defined by the similarity number.

34. (Previously Presented) The computer-readable storage medium of claim 33 wherein the method further comprises:

8152P002

substituting each sequence of whitespace characters in each program element in the first array and the second array with a single space character.

35. (Previously Presented) The computer-readable storage medium of claim 33 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code; and

the method further comprises:

prior to comparing, eliminating from the first and second arrays lines of functional program code that consist entirely of programming keywords.

36. (Previously Presented) The computer-readable storage medium of claim 33 wherein:

the program element type of the program elements in the first and second arrays is a line of program comments; and

calculating a similarity number comprises finding a number of matching lines in the first and second arrays.

37. (Previously Presented) The computer-readable storage medium of claim 33 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code excluding functional program code consisting entirely of program language keywords; and

calculating a similarity number comprises finding a number of matching lines in the first and second arrays.

38. (Previously Presented) The computer-readable storage medium of claim 33 wherein:

8152P002

the program element type of the program elements in the first and second arrays is a program code identifier; and

calculating a similarity number comprises finding a number of similar identifiers in the first and second arrays.

39. (Previously Presented) The computer-readable storage medium of claim 38 wherein the similar identifiers represent at least one of exact matches or partial matches.

40. (Previously Presented) The computer-readable storage medium of claim 39 wherein each partial match is a sequence of characters that can be found within an element of the first array and an element of the second array.

41. (Currently Amended) A computer-implemented apparatus comprising:

a computer; and

a source code matching program on the computer, the source code matching program comprising:

means for creating a first array for a first program source code file including a plurality of program elements, the first array containing program elements of a distinct program element type represented by any one of lines of functional program code, lines of program comments, or program code identifiers;

means for creating a second array for a second program source code file including the plurality of program elements, the second array containing program elements of the same program element type as the program elements in the first array;



means for comparing the program elements from the first array with the program elements from the second array to find similar program elements, the comparison being performed between individual program elements regardless of an order of code lines containing the program elements in the first array and the second array during the comparison, the comparison being independent of common sequences of program elements in the first array and the second array;

means for calculating a similarity number based on the similar program elements, wherein when the similar program elements are similar program code identifiers, the similarity number is calculated by combining a number of matching alphabetical characters in the similar program code identifiers with a fraction of a number of matching numerals in the similar program code identifiers; and

means for presenting to a user an indication of plagiarism with respect to at least one of the first program source code file and the second program source file, wherein the indication of plagiarism is defined by the similarity number.

42. (Previously Presented) The apparatus of claim 41 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code; and

the source code matching program further comprises:

means for eliminating, prior to comparing, from the first and second arrays lines of functional program code that consist entirely of programming keywords.

43. (Previously Presented) The apparatus of claim 41 wherein:

the program element type of the program elements in the first and second arrays is a line of program comments; and

the means for calculating a similarity number comprises means for finding a number of matching lines in the first and second arrays.

44. (Previously Presented) The apparatus of claim 41 wherein:

the program element type of the program elements in the first and second arrays is a line of functional program code excluding functional program code consisting entirely of program language keywords; and

the means for calculating a similarity number comprises means for finding a number of matching lines in the first and second arrays.

45. (Previously Presented) The apparatus of claim 41 wherein:

the program element type of the program elements in the first and second arrays is a program code identifier; and

the means for calculating a similarity number comprises means for finding a number of similar identifiers in the first and second arrays.

46. (Previously Presented) The apparatus of claim 45 wherein the similar identifiers represent at least one of exact matches or partial matches.

47. (Previously Presented) The apparatus of claim 46 wherein each partial match is a sequence of characters that can be found within an element of the first array and an element of the second array.

8152P002

48. (Previously Presented) The method of claim 23 wherein the similar program elements represent at least one of exact matches or partial matches.

49. (Previously Presented) The computer-readable storage medium of claim 33 wherein the similar program elements represent at least one of exact matches or partial matches.

50. (Previously Presented) The computer-readable storage medium of claim 33 wherein the comparison is insensitive to whether characters of the program elements are uppercase or lowercase.

51. (Previously Presented) The apparatus of claim 41 wherein the similar program elements represent at least one of exact matches or partial matches.

52. (Previously Presented) The apparatus of claim 41 further comprising means for substituting each sequence of whitespace characters in each program element in the first array and the second array with a single space character.

53. (Previously Presented) The apparatus of claim 41 wherein the comparison is insensitive to whether characters of the program elements are uppercase or lowercase.

**REMARKS**

Applicants respectfully request consideration of the subject application as amended herein. In this amendment, claims 23, 33 and 41 have been amended. No new matter has been added.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Applicants respectfully request reconsideration of the application and allowance of the pending claims.

**DEPOSIT ACCOUNT AUTHORIZATION**

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Marina Portnova at (408) 720-8300.

Respectfully submitted,  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: \_\_\_\_\_, 2008

\_\_\_\_\_  
Marina Portnova  
Reg. No. 45,750

1279 Oakmead Parkway  
Sunnyvale, CA 94085-4040  
(408) 720-8300